THE DODD-FRANK ACT AND ITS IMPACT ON COMMUNITY BANK MORTGAGE LENDING

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ABSTRACT

MARGARET ELIZABETH SCHORGL: The Dodd-Frank Act and its Impact on Community Bank Mortgage Lending
(Under the direction of Dr. Thomas Garrett)

I investigate the impacts of additional regulatory burdens on community bank mortgage lending due to the Dodd-Frank Act. The Dodd-Frank Act, which was signed into federal law by President Barack Obama on July 21, 2010, was intended to protect consumers, promote financial stability, and reduce the risk associated with larger banks being "too-big-to-fail." However, one criticism of the Act is that the increased regulations and compliance costs under the Act have made it increasingly difficult for smaller banks to survive. As a result, an unintended consequence of the Dodd-Frank Act is that smaller banks may issue fewer loans than they would in the absence of increased compliance costs.

In this thesis I analyze the effect of the Dodd-Frank Act on mortgage lending by community banks before and after the Dodd-Frank Act to determine whether or not this legislation has negatively impacted community banks. I use online public data provided by the Home Mortgage Disclosure Act (HMDA) for a sample of community banks in Mississippi and Alabama. In addition, I evaluate the effect Dodd-Frank has had on small commercial banks' return on average assets using national data from the Federal Reserve Bank of St. Louis. My hypothesis is that the average number of mortgage applications received, the average percentage of mortgage applications approved, the average value of mortgage applications received, the average value of mortgage applications approved, the average percentage of mortgage value approved, and the return on average assets for small

commercial banks have all decreased in the years following the passage of the Dodd-Frank Act compared to years preceding the legislation. In accordance with my hypothesis, I find that all six variables decreased after the Dodd-Frank Act was enacted, thus providing evidence that community banks were adversely affected by the Dodd-Frank Act.

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Introduction

Beginning in 2007, a financial crisis began when real estate prices in the United States started to dramatically decline and the number of loan defaults increased. At first, realtors believed the housing market would quickly bounce back as housing prices had consistently increased from the 1990s until 2006 and exceeded 10 percent annual growth from 2004 to 2006. However, no one knew how many homeowners took out subprime mortgage loans in excess of the value of their homes. Even though many of these subprime borrowers lacked a sufficient source of income, were considered high risk borrowers, and had low credit ratings, large banks were still making the American dream of becoming a homeowner come true. Traditionally, mortgages require potential buyers to provide an initial down payment when a loan is originated and pay off the rest of their home through monthly mortgage payments. In the years leading up to the financial crisis, bankers became more creative with their lending process by offering subprime mortgages that required interest-only payments with no money down. In an effort to quickly profit from the origination of as many mortgages as possible, many mortgage applications were approved for people who normally would not have qualified to be homeowners.

With less restrictive terms and an easier application process, mortgage lenders capitalized on the housing boom that took place during the early to mid-2000s. Increased liquidity in the economy, decreased interest rates, and easier access to credit made it easier to purchase a home; therefore, this created more home loans, more homeowners, and increased the values of homes altogether. According to the Federal Reserve Bank of St.

Louis, the homeownership rate, which accounts for the percentage of households that are owner-occupied, reached a high of 69.2 percent in 2004, but home values began to decrease as early as 2005.[1] Subprime borrowers with interest-only loans quickly found it more difficult to pay off their monthly mortgages as interest rates increased. Many homeowners could no longer afford their payments and default rates on home loans started to rise sharply. According to the Federal Reserve Bank of Chicago, between 2004 and 2007 the percentage of subprime mortgages that defaulted within twelve months of origination rose from 11.1 percent to 25.4 percent and from 15.9 percent to 33.9 percent within eighteen months of origination.[2] Because subprime borrowers could no longer keep up with their mortgage payments, subprime lenders began filing for bankruptcy, with more than 25 subprime lenders filing in February and March of 2007 alone.[3]

As unsound lending practices and failures of the American financial system began to surface, the Dow Jones Industrial Average lost over half its value, falling from 14,000 points to 6,547 points between July 2007 and March 2009,[4] leaving Americans who invested much of their life savings in the stock market with large losses. Millions of homeowners eventually lost their homes, their jobs, and their entire life savings. From 2007 to 2009, 8.8 million jobs were lost, the number of available jobs decreased by 44 percent, and $19.2 trillion in household wealth was lost, with families losing $5,800 in income on

[1] See U.S. Bureau of the Census, https://fred.stlouisfed.org/series/RHORUSQ156N, (accessed 3 February 2018).
[2] See Massad, https://www.treasury.gov/resource-center/data-chart-center/Documents/20120413_FinancialCrisisResponse.pdf, (accessed 4 February 2018).
[3] See Singh, htttps://www.investopedia.com/articles/economics/09/financial-crisis-review.asp, (accessed 2 February 2018).
[4] See Pomante and Schraufnagel (2014).

average.[5,6] The United States officially fell into the worst recession since the Great Depression of the 1930s.

The collapse of the housing market ultimately revealed the fragility of the entire financial system in the United States. As a result of the financial turmoil caused by the housing crisis, the Federal Reserve and the United States government attempted to quickly suppress the overall damage of the crisis, believing only policymakers could fix the broken regulatory framework for banking. They reacted by creating several lending programs (e.g., term auction facilities) that injected more liquidity into the United States credit market, reducing interest rates, and lending out extraordinary amounts to several American institutions. The Federal Reserve also asked financial regulatory agencies to work with lenders to create loan arrangements with homeowners to prevent foreclosures. To mitigate the amount of foreclosures, the Federal Reserve offered to convert faulty loans into fixed-rate mortgages, to provide credit counseling for homeowners, and to enlist the help of Fannie Mae and Freddie Mac, the nation's housing finance system, to help subprime mortgage holders keep their homes.

Along with the liquidation or "rescue" of many institutions, the United States government passed the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act) in the hopes of resolving issues surrounding the recession. This lengthy legislation, with over 3,000 pages and 398 rules, attempts to address the problems with "too-big-to-fail" banks (TBTF) while protecting consumers and providing stability for the

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[5] See Massad, https://www.treasury.gov/resource-center/data-chart-center/Documents/20120413_FinancialCrisisResponse.pdf, (accessed 4 February 2018).
[6] See Bureau of Labor Statistics, https://www.bls.gov/spotlight/2012/recession/pdf/recession_bls_spotlight.pdf, (accessed 4 February 2018).

American financial system. TBTF banks are described as financial institutions that are considered systematically important to the health of the financial system. They are supported by the government in times of financial distress out of fear that their failure could trigger a financial crisis. Following the failures of several financial institutions, policymakers began to fear that the interconnectedness of banks and their potential to fail would significantly impact the economy. Therefore, the nation's largest institutions received the most funding, even though these TBTF banks were largely to blame for the financial perils the country was facing.

Banks, as well as their regulatory requirements, are typically classified by asset size, with the largest portion of banks in the United States holding assets between $100 million and $1 billion. While banks of this asset size, often referred to as "community banks," make up more than half of all banks in the United States banking system and employ thousands of Americans, there is not one specific regulatory definition for community banks. As opposed to larger banks, community banks focus on more traditional, relationship banking services. They generally accept deposits, reinvest those deposits back into their communities as loans, and profit from the interest earned on loans. In addition, these institutions focus more on smaller geographic regions as most of their funding is received from their local communities. Marsh and Norman (2013) state that as of 2011, 82 percent of community banks served three or fewer counties and represented approximately 70 percent of banking offices in rural communities.

Because community banks rely on a relationship banking model, they play a large role in the American financial system, but they were not responsible for the financial crisis of 2008. By implementing a relationship banking model, community banks historically experience fewer credit losses and are less likely to take part in predatory lending with their specialized knowledge of local businesses. In comparison to larger institutions, the model community bankers follow allows them to better understand their customers' financial circumstances and foster a closer lender-borrower relationship, as opposed to solely relying on financial models. Without a focus on short-term results, lenders at community banks are better able to determine an applicant's creditworthiness and guarantee his or her loan would not default. Also, unlike TBTF banks, community banks did not participate as much in subprime mortgage lending, securitization, or derivatives trading. However, under the Dodd-Frank Act community banks are subject to most of the same rules and regulations as TBTF banks, leaving them with a better chance of failing as a result of standardized legislation.

Following the passage of the Dodd-Frank Act, more than 1,700 community banks have disappeared. New regulations brought upon by the Dodd-Frank Act make it incredibly difficult for community banks to keep up with compliance costs and lessen their ability to earn rates of return that can cover these costs. As a result, this has forced many smaller banks to consolidate with larger banks and increased the competitive advantage larger banks have in comparison to smaller banks. Marsh and Norman (2013) argue that federal legislation is responsible for the decrease in the amount of available banking options for customers and the fact that 7.6 percent of banks in the United States hold 86 percent of all banking assets. In addition, they show that from 1985 to 2010, the number of banks with assets of less than $100 million decreased by more than 80 percent while banks with assets of $10 billion or more tripled during the same time period. Thus, given that earlier legislation has negatively affected community banks, it is not unreasonable to surmise that the Dodd-Frank Act has also had a negative impact on community banks.

Because community banks provide banking services to small businesses and rural communities, they play a major role in the overall health of the nation's economy. Without community banks, more than sixteen million Americans and 1,200 counties would have extremely limited access to banking services. Because many community banks continue to merge with larger banks or have disappeared as a consequence of standardized legislation, rural communities have found it much more difficult to acquire small business loans and consumer loans. With a decrease in the number of community banks, rural communities are now left with fewer, more expensive banking services and limited availability to credit. Marsh and Norman (2013) report that banks with asset sizes under $10 billion are responsible for issuing 48.1 percent of small-business loans, 15.7 percent of home loans, 42.8 percent of farmland loans, 43.8 percent of farm loans, and 34.7 percent of commercial real-estate loans; therefore, the passage of the Dodd-Frank Act has surely increased the number of Americans who are underbanked. In fact, with even less access to banking services, underbanked communities have turned to untraditional banking platforms like payday loans for short-term loans. Historically, payday lenders have taken advantage of consumers by offering predatory lending schemes that charge much higher interest payments than traditional community bank loans.

With continued increases in compliance costs and less access to credit, many community banks are struggling to survive. Even though policymakers disagree on exactly how to regulate banks of different asset sizes, they can all agree that small businesses are vital to the nation's economy. Overall, Marsh and Norman (2013) report that small businesses employ half of the United States workforce and are responsible for 46 percent of production. In order for small businesses to help drive the economy, they desperately need access to financial services so they can fund future projects and create jobs within their communities. While community banks nationwide work tirelessly to provide approximately half of the loans small businesses require, the Dodd-Frank Act has severely hindered their ability to meet their customers' needs. If community banks cannot maintain a revenue margin that offsets their costs, their local economies will suffer.

While the Dodd-Frank Act aims to protect consumers and stabilize the financial system, it fails to do either by implicitly backing TBTF institutions and making it harder for community banks to be able to serve their communities. As struggling community banks are forced to either consolidate with larger banks or close their doors, larger financial institutions now have an even bigger competitive advantage over smaller banks. If large banks provided mortgages for small business, this would not be a problem. However, Berger and Udell (2002) argue that the amount of credit available to small firms is concerning when analyzing the characteristics of relationship lending, the organizational structure of banks, and the effects economic shocks have on the availability of relationship credit to small businesses. With limited access to capital markets and a strong reliance on external funding, small firms find it difficult to fund their businesses. In examining the estimated distributions of equity and capital for U.S. small businesses, Berger and Udell (2002) conclude that the shift towards bank consolidation will further decrease the availability of funds to small firms in the United States. This then suggests that if the Dodd-Frank Act encouraged bank consolidations, then the availability of funds to small firms in the U.S. would have further decreased.

Even though subprime mortgage lending is not solely responsible for the increase in mortgage defaults preceding the financial crisis, it is clear that community banks are not to blame. The Federal Deposit Insurance Corporation (FDIC) reports that from 2003 to 2012 residential mortgages created by community banks performed higher than all residential mortgages combined in the same period, with only 0.20 percent of residential mortgages defaulting. Also, when comparing the loan portfolios of community banks to other institutions since 2009, default rates of loan portfolios at community banks average 0.23 percent while other institutions average 3.62 percent. Furthermore, community banks cannot be blamed for the financial turmoil caused by the subprime lending market, as they held 2 percent of all defaults that occurred before and after the financial crisis. In addition, community banks played extremely minor roles in the practices of securitization and derivatives trading between 2003 to 2010; therefore, Marsh and Norman (2013) argue that they should not be subjected to the same rules and regulations large financial institutions are held to under the Dodd-Frank Act.

The purpose of this thesis is to examine the impacts of the Dodd-Frank Act on community banks, particularly in relation to mortgage lending. In Section 2, I explain the major causes of the 2008 financial crisis and provide an overview of what preceded the passage of the Dodd-Frank Act. I also discuss what the Dodd-Frank Act was supposed to accomplish, as well as its unintended consequences on community banks. In section 3, I analyze the impacts of the Dodd-Frank Act on community bank lending. I specifically compare the number of mortgage applications received, the percentage of mortgage applications approved, the value of mortgage applications received, the value of mortgage applications approved, the percentage of mortgage value approved, and return on assets from ten community banks in Alabama and Mississippi before and after the financial crisis. Section 4 of the thesis presents my findings, which support my hypothesis that the Dodd-Frank Act has increased the regulatory burden on community banks. Section 5 is reserved for concluding comments.

The Financial Crisis Explained

As signs of an oncoming financial crisis began to surface, both national and international observers questioned whether the American real estate market could collapse. Because the current regulatory framework for the banking system in the United States appeared to foster long-standing economic growth, it is easy to understand why many Americans were unaware of what could cause the world's economy to suffer extraordinary losses. Policymakers were left with the responsibility of determining what happened in the years preceding the most recent recession and were expected to quickly resolve whatever problems remained within the banking system as the recession passed. Lawmakers passed the Dodd-Frank Act with the intent of putting a stop to the financial failures that led to the most severe recession in recent decades, but in the years following its passage, critics wonder whether or not the Dodd-Frank Act has had the unintended consequence of financially harming smaller banks.

Financial and Housing Sectors - Pre-Crisis

After the financial crisis of 2008, Americans became much more familiar with two of the biggest mortgage investors in the United States mortgage market: Fannie Mae and Freddie Mac. In response to the Great Depression of the 1930s, President Franklin D. Roosevelt created Fannie Mae in 1938 with the hopes that supplying federal money to suffering banks would increase homeownership and establish a more affordable housing market. The agency proved to be successful in providing lower income families with loans that likely would not have been approved before. However, Fannie Mae grew to be very large and financial strains from the Vietnam War propelled President Lyndon B. Johnson to convert Fannie Mae to a government-sponsored enterprise in 1968 in order to reduce federal spending on the program. Freddie Mac was officially created two years later in 1970 to prevent Fannie Mae from developing into a monopoly.[7] According to the Federal Housing Finance Agency, Fannie Mae and Freddie Mac's main purposes are to ensure the liquidity, stability, and affordability of mortgage funds in the United States. They do so by supplying liquidity to banks, providing savings and loans to American homeowners, and buying mortgages from other lenders in the market. They then choose to hold these mortgages in their portfolios or sell them to the secondary market.[8]

By 2003, Fannie Mae and Freddie Mac controlled approximately 90 percent of the secondary mortgage market in the United States.[9] Like other financial institutions, Fannie Mae and Freddie Mac also took advantage of the housing boom in the early to mid-2000s by originating mortgages to applicants who did not necessarily qualify to become homeowners. In doing so, these government-sponsored entities grew in terms of assets and number of mortgage-backed securities issued. As of 2008, their assets were 45 percent larger than the nation's biggest bank and they accounted for 46 percent of the debt in the United States.[10] However, as opposed to other financial institutions, they were not required to have the same capital requirements and were given additional government funding, thus making it more difficult for their competitors to compete against them.

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[7] See Pickert (2008).
[8] See Federal Housing Finance Agency, https://www.fhfa.gov/SupervisionRegulation/FannieMaeandFreddieMac/Pages/About-Fannie-Mae---Freddie-Mac.aspx, (accessed 12 February 2018).
[9] See Blumberg (2011).
[10] See Alford, https://historynewsnetwork.org/article/1849, (accessed 10 February 2018).

Competitors of Fannie Mae and Freddie Mac called for better regulation of these government-sponsored entities, but their congressional charter and government backing made it difficult for critics' concerns to be realized. Starting in 2007, Fannie Mae and Freddie Mac experienced large asset write-downs and were predicted to soon be insolvent. The United States government worried that the failure of these mortgage giants would ultimately impact the entire financial system. Therefore, they were placed into conservatorship in the fall of 2008 after President George W. Bush signed the Housing and Recovery Act of 2008 into law.[11] This left American taxpayers with the financial responsibility of resolving the problems created by Fannie Mae and Freddie Mac's unsound banking practices, as $200 billion of capital was injected into the entities so they could remain solvent.

The Lack of Regulation of the American Banking System

Many argue that the deregulation of the United States banking system is largely to blame for the financial crisis of 2008.[12] With a more comprehensive regulatory framework in place, large financial institutions would not have been able to participate in two financial practices that the Dodd-Frank Act lists as causes of the recession: subprime mortgage lending and securitization. These activities were largely brought upon by the repeal of the Glass-Steagall Act of 1999 which had prevented banks from using deposits to invest in derivatives. The process of securitization starts when banks sell mortgages to a secondary market who then bundles together mortgages, derivatives, and other debt obligations with

[11] See Federal Housing Finance Agency, https://www.fhfa.gov/Conservatorship (accessed 10 February 2018).
[12] See Amadeo, https://www.thebalance.com/what-caused-2008-global-financial-crisis-3306176, (accessed 13 February 2018).

similar characteristics. Hedge funds then sell these securities to investors. At the time, the exact number of derivatives and investors who would be affected by the large number of mortgage defaults was unknown because the secondary market is not regulated by the Securities and Exchange Commission. These highly sophisticated financial instruments pay higher returns in a growing market, but losses are also magnified during periods of economic distress.

The unregulated trading of these derivatives eventually enabled larger banks to take part in very complicated financial practices. Because banks were able to sell mortgages, they could still collect payments on loans while creating new loans. As a result, banks, hedge funds, and investors all profited from this process. These loans were risk free for banks to originate, even though they were likely to default, because the risk was transferred to investors. However, investors were not worried about these investments failing because they were insured by insurance agencies. The demand for cheap and higher risk mortgages increased as insurance companies continued to back them. Therefore, banks approved loans to almost anyone who applied for them and increased the number of subprime mortgages they approved so they could profit from the derivatives, not the loan payments. Many financial institutions also began to purchase repackaged subprime mortgages (called mortgage-backed securities) as investments in the hopes of making quick profits on them. With mortgage lenders becoming more creative and less restrictive, homebuilders and investors did their best to keep up with the demand for housing.

Between 2001 and 2006, the origination of subprime mortgages increased from 10 to 20 percent, growing to be a $1.3 trillion industry.[13] When the values of these derivatives

[13] See Amadeo, https://www.thebalance.com/what-caused-2008-global-financial-crisis-3306176, (accessed 13 February 2018).

began to decline, insurance companies lacked the cash flow necessary to cover credit default swaps. The burden of these loans then fell on the banks who approved them. As the number of subprime mortgage defaults started to increase, banks began to question the solvency of one another. This created a feeling of distrust among banks, reduced the amount of interbank borrowing, and increased the costs of interbank borrowing, such as in benchmark rates like the LIBOR rate. Overall, the practice of securitization proved to be unsustainable when it largely contributed to the 2008 financial crisis, thus affecting homeowners, investors, and the overall health of the economy. The eventual collapse of the residential real estate market and failure of several financial institutions such as Lehman Brothers and Bear Stearns not only impacted the United States economy, but the world economy at large, thus leading to a worldwide financial panic.

The Financial Crisis and Dodd-Frank

The Dodd-Frank Act, passed in 2010, is one of the most significant pieces of financial legislation passed by Congress since the Great Depression. Although it was created to end the unsound practices that lead to the most recent financial crisis, many critics question whether it is fulfilling its primary purposes. As stated within its regulatory text, the Dodd-Frank Act's primary goals are "to promote the financial stability of the United States by improving accountability and transparency in the financial system, to end 'too-big-to fail,' to protect the American taxpayer by ending bailouts, to protect consumers from abusive financial services practices, and for other purposes."[14] In an effort to overhaul the regulation of the United States banking system and prevent future failures, this

[14] *Dodd-Frank Wall Street Reform and Consumer Protection Act*, Public Law 111-203, 111th Cong., 2nd sess. (July 21, 2010), page 2.

legislation calls for a drastic increase in the supervision of all banks. Under the Dodd-Frank Act, all financial institutions are subject to many of the same rules and regulations, despite vast differences in asset holdings across institutions.

After enduring the worst economic recession and financial crisis since the Great Depression of the 1930s, lawmakers were determined to fix the broken financial regulatory system. The authors of what is the most comprehensive piece of legislation in the banking industry today hoped to target those whose actions they believe were most responsible for the most recent recession – large financial institutions. Perhaps the most important purpose of the Dodd-Frank Act is to put an end to TBTF banks and large government bailouts. With different rules and regulations, along with the creation of new governmental agencies such as the Consumer Financial Protection Bureau (CFPB), the Dodd-Frank Act attempts to better regulate the banking industry and protect consumers from abusive financial services. In passing this legislation, lawmakers hoped to create a safer financial system built upon a foundation that fosters lasting economic growth.

The primary purpose of all banking legislation is to ensure the safety and soundness of the entire banking system, prevent economic failure, and promote profitability. Many financial reforms have been signed into law in previous decades to protect consumers and prohibit banks from taking part in excessively risky practices. Similar to previous financial reforms, the Dodd-Frank Act was passed by lawmakers who wanted to ensure another financial crisis would not happen. However, lawmakers failed to consider how creating "one-size-fits-all" banking regulation, which calls for a large increase in compliance costs for all banks regardless of asset size, would impact banks having different levels of assets. For example, the ability-to-repay rule calls for lenders to verify the creditworthiness of a potential borrower to pay off a mortgage before they originate the loan. In order to complete a more in-depth examination of a customer's financial background, banks are now required to spend more time and money training their staff to more comprehensively review mortgage applications. As a result, many banks have hired more staff to keep up with new requirements. According to the Federal Reserve Bank of Kansas City, the staff sizes of banks with assets under $1 billion in the 10th District in 2014 were expected to increase by 37 percent. Additionally, almost 90 percent of respondents predicted increases in training and technology expenses over the same time period.[15]

One criticism of the Dodd-Frank Act is that community banks are negatively impacted by the legislation because the additional requirements have increased the operating costs for banks of all sizes, and unlike large financial institutions, community banks are less able to enjoy economies of scale (decreasing per unit costs as output increases); therefore, community banks are less able to spread increased regulatory costs over a wider customer base to lower their cost per borrower.

Several academic papers have empirically examined the negative effects of the Dodd-Frank Act. Cyree (2016) measures the regulatory burden on the profit, cost, and production of small banks in the U.S. around crisis-based regulatory programs from 1991 to 2014. For his analysis, Cyree (2016) analyzes data from the Federal Reserve FR-Y9C reports for bank holding companies. His study includes over 110,000 bank-quarter observations with the goal of estimating bank compliance costs and the reductions in loan

[15] See Le (2017).

outputs for small banks with less than $5 billion in assets. Cyree (2016) finds that regulatory changes negatively affected small banks' profit, costs, and production. Specifically, he finds that pre-tax ROA and loans-per-employee decrease after the Dodd-Frank Act while the percentage change in employees, salaries-to-assets ratio, and indirect and direct expense increase. Cyree (2016) acknowledges that these results are not conclusive, but his analysis provides valid reasoning that changes in costs, regulation, and productivity create a major challenge for smaller banks.

Cyree, Griffiths, and Winters (2016) examine bank lending pre- and post-crisis. The authors analyze bank lending and related activities following the financial crisis and compare post-crisis levels to levels during the financial crisis and a pre-crisis period. They answer their empirical question through an analysis of three reasons banks may not lend: credit rationing, a capital crunch, and a credit crunch. Overall, they find no evidence that suggests credit rationing, capital rationing, or a credit crunch are directly responsible for banks systematically restricting lending. While the authors find that post-crisis loan growth rates are lower than crisis loan growth rates, they also observe that loan growth is similar to pre-crisis growth. However, they recognize the possibility that increased enforcement of post-crisis credit standards in some sectors could have influenced their findings.

The findings of previous research discussed above are fundamentally due to the fact that, in contrast to community banks, large financial institutions enjoyed lower costs per borrower preceding the financial crisis of 2008 as the cost of servicing loans decreased as the quantity of loans originated increased dramatically. By constraining the banking system with additional uniform rules, requirements, and costs, the Dodd-Frank Act makes it much more difficult for community banks to offset the increased fixed costs of compliance and stay in business. As result, the United States banking system has increasingly consolidated and the Dodd-Frank Act has failed to put an end to TBTF banks by unintentionally increasing the market share of larger banks. The United States government has historically pushed for decentralization in the banking industry; therefore, concern over market share concentration allowed for an increased number of community banks being created throughout the country. With a larger number of smaller banks, lawmakers hoped to create a safer, more personal banking environment by encouraging a closer client-banker relationship. However, with the passage of the Dodd-Frank Act, the banking industry has seen much consolidation within the community banking system and larger financial institutions gaining a considerable share of the market.

Because the regulations enacted by the Dodd-Frank Act have unintentionally increased the market share of a small percentage of banks, its purpose of eliminating TBTF banks has resulted in quite the opposite. Without exempting community banks from increased compliance costs and capital requirements, further consolidation of the banking industry will likely take place and millions of Americans will be at risk of being underbanked. The Dodd-Frank Act's broad language with regards to regulation has resulted in even more problems within the banking industry. Without a clear definition for what constitutes a community bank, lawmakers are subjecting small banks to the same requirements as large banks. In order to resolve the issues surrounding bank consolidation and to keep the banking industry competitive, a new regulatory framework is necessary for community banks.

Community bankers pride themselves on the close relationships they develop with their customers and the vital role they play in their local economies' growth. In removing the face-to-face interaction that takes place at community banks, larger banks have standardized the process by which they lend to consumers and thereby diminish the importance of determining one's creditworthiness. Even though banks of all asset sizes take a risk when they distribute loans, community banks are less likely to originate future loan defaults by having a better understanding of a consumer's attributes, such as their integrity and character. Because community banks build relationships with their customers, they better understand their customer's financial history and are better equipped to originate loans that larger institutions may not be willing to risk.

While the Dodd-Frank Act was created with the intent to change the existing regulatory framework, its effects on community banks and the entire banking system as a whole is impossible to quantify. As community bankers look toward the future, the uncertainty of success within their highly-regulated industry is higher than ever. Community banks are major sources of credit in local and rural communities who provide a significant portion of mortgages and small business loans for agriculture, real estate, and retail. With increased compliance costs and larger banks holding an even bigger share of the market following the passage of the Dodd-Frank Act, community bankers worry their businesses will not last to support their local communities.

Because community banks do not have the economies of scale that larger banks enjoy, community banks are likely to find it more difficult to remain profitable after regulatory fixed-costs have been imposed with the passage of the Dodd-Frank Act. The important question I answer in the next sections of the thesis is whether the Dodd-Frank Act has adversely impacted community banks by reducing their mortgage lending activity and ROA.

Research Question and Empirical Methodology

Similar to any industry, a regulatory framework is necessary to ensure the safety and soundness of the United States banking system. Such guidelines provide reassurance to customers that bankers are keeping customers' best interests in mind and not jeopardizing the welfare of their life savings. Banking regulations inevitably change as the industry evolves and faces challenges during times of economic distress, which results in both positive and negative effects on banks of different sizes. Following the financial crisis of 2008, the Dodd-Frank Act was passed with the intent of reducing the probability of another financial crisis. However, lawmakers failed to consider the possible consequences of imposing "one-size-fits-all" regulations and how they would impact banks of different asset sizes.

In an attempt to better regulate the banking industry, protect consumers from predatory lending services, and prevent another financial crisis, the Dodd-Frank Act has largely increased the amount of information banks must provide when approving loans. As a result, the time and fixed-costs that are now required have made it much more difficult for community banks to provide mortgages to their local communities and thus remain solvent due to more limited sources of income and higher costs per borrower. Assessing the impact of the Dodd-Frank Act on mortgage lending by community banks is the issue I empirically examine in this section.

In order to address the question of whether the Dodd-Frank Act has adversely affected lending by community banks, I compare mortgage lending information provided online by the Federal Financial Institutions Examination Council's website (FFIEC).[16] With the passage of the Home Mortgage Disclosure Act of 1975 (HMDA), congress requires lending institutions of all asset sizes to make loan data available to the public. By making loan information publicly available, regulators hope to better assess whether financial institutions are best serving their communities, distributing public-sector investments in areas needing investment, and not engaging in discriminatory lending activities. According to the FFIEC's website, a total of 6,762 banks, saving associations, credit unions, and other mortgage lending institutions reported loan data in 2017.

I collected mortgage information from ten community banks within Alabama or Mississippi found on the HMDA website. Each bank has an asset size between $100 million and $1 billion (the standard for community banks) and has mortgage information dating back to 2002. For each of the ten banks, I obtained annual data on the number of loans approved and the dollar amount of loans approved for the years 2002 through 2007 and for the years 2011 through 2016. For each data series, I then calculated the average number of loans approved and the average dollar amount of loans approved for the six-year period 2002-2007 (pre-Dodd-Frank) and for the six-year period 2011-2016 (post-Dodd-Frank). I did not consider data for 2008-2010 in order to avoid data irregularities due to "crisis" years. Following a similar methodology, I also calculated the average percent of loan applications approved and the percent of loan value approved. Thus, the five variables I compare pre- and post- Dodd-Frank are the number of mortgage applications received, the percentage of mortgage applications approved, the value of mortgage applications

[16] Available at https://www.ffiec.gov/hmdaadwebreport/DisWelcome.aspx (accessed 11 October 2017).

received, the value of mortgage applications approved, and the percentage of mortgage value approved Descriptive data on each bank I use in analysis is shown in Table 1.

Table 1. Community Bank Location and Asset Size

Bank	Location	Asset Size
Auburnbank	Auburn, AL	$790,000,000
Century Bank	Lucedale, MS	$250,000,000
Citizens Bank & Trust Co.	Marks, MS	$133,000,000
Community Bank of Mississippi	Forest, MS	$665,000,000
First Commercial Bank	Jackson, MS	$334,000,000
First Metro Bank	Muscle Shoals, AL	$525,000,000
First Security Bank	Batesville, MS	$511,000,00
Pinnacle Bank	Jasper, AL	$219,000,000
State Bank & Trust Company	Greenwood, MS	$971,000,000
The Peoples Bank	Biloxi, MS	$665,000,000
Average		$506,300,000

Note: Asset size as of October 2017.

In addition to obtaining loan data, I also compare the return on average assets (ROA) before and after the Dodd-Frank Act for commercial banks with assets under $5 billion in the United States. While the banking industry uses several ratios to gauge the financial performance of institutions, computing ROA (net income/average total assets) provides one of the clearest representations for determining whether a bank is effectively profiting from its investments. Because community banks largely profit from interest earned on loans and deposits, this ratio is perhaps one the most important indicators of their success. From the data provided by the Federal Reserve Bank of St. Louis, I compare the average national ROA of commercial banks with assets under $5 billion following the financial crisis (2011-2016) with the average national ROA before the financial crisis (2002-2007).[17] Calculating national ROA allows me to better assess if banks in the United States were able to generate as much profit from each dollar of their assets, on average, after the passage of the Dodd-Frank Act.

In addressing my research question through these empirical methods, I hypothesize that the passage of the Dodd-Frank Act after the financial crisis of 2008 has adversely impacted community bank lending. I expect to find that the average number of mortgage applications received, the percentage of mortgage applications approved, the value of mortgage applications received, the value of mortgage applications approved, the percentage of mortgage value approved, and the national average ROA all decrease after the Dodd-Frank Act (2011-2016) compared to years preceding the Dodd-Frank Act (2002-2007).

[17] Available at https://fred.stlouisfed.org/series/ROAUS#0 (accessed 28 September 2017).

Empirical Results and Discussion

In this section I test my research hypothesis of whether the Dodd-Frank Act has reduced small-bank mortgage lending activity and ROA. To test my hypothesis, I compare the number of mortgage applications received, the percentage of mortgage applications approved, the value of mortgage applications received, the value of mortgage applications approved, and the percentage of mortgage value approved for ten banks within Alabama or Mississippi before (2002-2007) and after (2011-2016) the passage of the Dodd-Frank Act. In addition, I also compare the quarterly ROA for commercial banks with assets under $5 billion in the United States for the same six-year periods. To keep my analysis consistent with industry research, I do not use data from 2008-2010 to avoid data irregularities due to "crisis" years. The results from my analysis are shown in Tables 2 through 7.

Data on the average annual number of applications received by each community bank is shown in Table 2. I find that seven of the ten small banks received a lower average number of loan applications following the passage of the Dodd-Frank Act. Averaging across all banks, the number of loan applications fell by 38 after the Dodd-Frank Act, a decrease of 33 percent.

Table 2. Number of Mortgage Applications Received

Bank	Average Annual Number of Applications 2002-2007 (1)	Average Annual Number of Applications 2011-2016 (2)	Difference (2) - (1)
Auburnbank	337	194	-143
Century Bank	48	19	-29
Citizens Bank & Trust Co.	8	8	0
Community Bank of Mississippi	275	249	-26
First Commercial Bank	17	26	10
First Metro Bank	139	124	-15
First Security Bank	75	77	2
Pinnacle Bank	101	15	-87
State Bank & Trust Company	43	22	-21
The Peoples Bank	122	51	-71
Average	116.5	78.5	-38

Table 3 provides data on the average annual percentage of mortgage applications approved for each community bank. Eight of the ten community banks approved a lower percentage of loans post-Dodd-Frank compared with pre-Dodd-Frank. Across all banks in the sample, the percent of applications approved fell by 5 percentage points, which is roughly a 6 percent drop.

Table 3. Percentage of Mortgage Applications Approved

Bank	Average Annual Percentage of Applications Approved 2002-2007 (1)	Average Annual Percentage of Applications Approved 2011-2016 (2)	Percentage Point Difference (2) – (1)
Auburnbank	96%	95%	-1
Century Bank	60%	49%	-11
Citizens Bank & Trust Co.	80%	86%	6
Community Bank of Mississippi	91%	90%	-1
First Commercial Bank	97%	89%	-8
First Metro Bank	92%	90%	-2
First Security Bank	94%	82%	-12
Pinnacle Bank	68%	77%	9
State Bank & Trust Company	81%	58%	-23
The Peoples Bank	79%	70%	-9
Average	84%	79%	-5

Data in Table 4 show the average annual value of mortgage applications received by each community bank. Half of the community banks' application value decreased after the enactment of the Dodd-Frank Act. However, the other half of community banks' value increased after its passage. The average value of mortgage loan applications received across all banks fell by $132,333, a decrease of approximately 1 percent. In examining Tables 2 and 4, it is interesting to note that even with fewer people applying for mortgage applications, the value of mortgage applications remained relatively the same. One explanation for this result could be that the demand for cheaper housing increased as pools of investors bought up foreclosed housing.

Table 4. Value of Mortgage Applications Received

Bank	Average Annual Value 2002-2007 (1)	Average Annual Value 2011-2016 (2)	Difference (2) – (1)
Auburnbank	$44,078,167	$33,900,000	$(10,178,167)
Century Bank	$2,003,167	$1,770,667	$(232,500)
Citizens Bank & Trust Co.	$547,500	$595,667	$48,167
Community Bank of Mississippi	$37,463,833	$41,832,500	$4,368,667
First Commercial Bank	$2,171,833	$4,783,500	$2,611,667
First Metro Bank	$10,291,667	$29,398,833	$19,107,167
First Security Bank	$6,292,000	$9,782,833	$3,490,833
Pinnacle Bank	$12,554,167	$1,456,167	$(11,098,000)
State Bank & Trust Company	$5,735,500	$2,464,167	$(3,271,333)
The Peoples Bank	$10,412,500	$4,242,667	$(6,169,833)
Average	$13,155,033	$13,022,700	$(132,333)

Table 5 provides information on the average annual value of mortgage applications approved for each community bank. Half of the community banks in the sample approved a lower value of mortgage applications post-Dodd Frank compared with pre-Dodd Frank. Averaging across the entire sample, the value of mortgage loan applications approved fell by $1,868,844, which is roughly a 16 percent decrease.

Table 5. Value of Mortgage Applications Approved

Bank	Average Annual Value 2002-2007 (1)	Average Annual Value 2011-2016 (2)	Difference (2) – (1)
Auburnbank	$42,858,333	$32,519,500	$(10,338,833)
Century Bank	$1,108,167	$771,667	$(336,500)
Citizens Bank & Trust Co.	$453,000	$541,167	$88,167
Community Bank of Mississippi	$33,708,667	$37,400,167	$3,691,500
First Commercial Bank	$2,117,667	$4,165,167	$2,047,500
First Metro Bank	$9,669,000	$11,414,167	$1,745,167
First Security Bank	$6,031,500	$7,033,167	$1,001,667
Pinnacle Bank	$9,475,667	$1,215,667	$(8,260,000)
State Bank & Trust Company	$4,594,167	$1,409,333	$(3,184,834)
The Peoples Bank	$8,652,605	$3,510,333	$(5,142,272)
Average	$11,866,877	$9,998,033	$(1,868,844)

The average annual percentage of mortgage value approved for each community bank is shown in Table 6. I find that six of the ten community banks approved a lower percentage of mortgage value after Dodd-Frank. Across all banks provided, the percentage of mortgage value approved fell by 5 percent, a drop of roughly 6 percentage points.

Table 6. Percentage of Mortgage Value Approved

Bank	Average Annual Percentage of Value 2002-2007 (1)	Average Annual Percentage of Value 2011-2016 (2)	Percentage Point Difference (2) – (1)
Auburnbank	97%	96%	-1
Century Bank	55%	44%	-12
Citizens Bank & Trust Co.	83%	91%	8
Community Bank of Mississippi	90%	89%	-1
First Commercial Bank	98%	87%	-10
First Metro Bank	94%	96%	2
First Security Bank	96%	72%	-24
Pinnacle Bank	75%	83%	8
State Bank & Trust Company	80%	57%	-23
The Peoples Bank	83%	83%	0
Average	85%	80%	-5

Table 7 represents the quarterly returns on average assets for commercial banks with assets under $5 billion in the U.S. When comparing post-Dodd-Frank quarterly ROAs with pre-Dodd-Frank levels, ROA consistently decreases. Averaging across the entire sample of commercial banks, ROA fell by 33 percent, which is approximately a 26 percent decrease.

Table 7. Quarterly ROA for Commercial Banks with Assets < $5 Billion in the U.S.

Quarters 2002-2007	Average Quarterly ROA Percentage (1)	Quarters 2011-2016	Average Quarterly ROA Percentage (2)	Percentage Point Difference (2) – (1)
2002-01-01	1.25	2011-01-01	0.57	-0.68
2002-04-01	1.27	2011-04-01	0.58	-0.68
2002-07-01	1.27	2011-07-01	0.63	-0.64
2002-10-01	1.22	2011-10-01	0.58	-0.65
2003-01-01	1.26	2012-01-01	0.89	-0.36
2003-04-01	1.23	2012-04-01	0.97	-0.27
2003-07-01	1.26	2012-07-01	0.98	-0.28
2003-10-01	1.19	2012-10-01	0.93	-0.25
2004-01-01	1.29	2013-01-01	0.95	-0.34
2004-04-01	1.29	2013-04-01	0.98	-0.31
2004-07-01	1.31	2013-07-01	0.98	-0.33
2004-10-01	1.28	2013-10-01	0.98	-0.30
2005-01-01	1.30	2014-01-01	0.93	-0.37
2005-04-01	1.29	2014-04-01	0.98	-0.31
2005-07-01	1.29	2014-07-01	1.00	-0.28
2005-10-01	1.25	2014-10-01	1.00	-0.25
2006-01-01	1.23	2015-01-01	1.01	-0.22
2006-04-01	1.27	2015-04-01	1.02	-0.25
2006-07-01	1.29	2015-07-01	1.02	-0.27
2006-10-01	1.25	2015-10-01	1.03	-0.22
2007-01-01	1.22	2016-01-01	1.03	-0.19
2007-04-01	1.22	2016-04-01	1.03	-0.19
2007-07-01	1.21	2016-07-01	1.05	-0.16
2007-10-01	1.07	2016-10-01	1.00	-0.07
Average	1.25		0.92	-0.33

Source: https://fred.stlouisfed.org/series/ROAUS#0

According to my analysis, and in accordance with my hypothesis, I find that community banks' mortgage lending activity has been adversely affected by the Dodd-Frank Act. While there are many other possible factors that may have influenced my results (discussed in the next section), the evidence is consistent with my hypothesis that the Dodd-Frank has adversely affected mortgage lending. My results demonstrate that the average annual number of mortgage applications received, the average annual percentage of mortgage applications approved, the average annual value of mortgage applications received, the average annual value of mortgage applications value approved, the percentage of mortgage value approved, and the average quarterly returns on average assets have all decreased after the passing of the Dodd-Frank Act. The reductions in mortgage lending activity and ROA presented in my analysis coincide with the work of Cyree (2016). My results support the fact that the Dodd-Frank Act imposes higher fixed costs per borrower on banks of all asset sizes with increased regulatory requirements, thus increasing the number of community banks' who struggle to support their local economies. As argued in the beginning sections of the thesis, the combined reduction in lending activity and return on average assets narrows the spread at community banks, and thus makes it much more difficult for community banks to survive.

Conclusion

After the financial crisis of 2008, American lawmakers found themselves scrambling to fix the damage to the banking industry from the most devastating economic downturn since the Great Depression of the 1930s. In response, the Dodd-Frank Act was enacted with the hopes of creating a safer banking environment and putting an end to TBTF banks. This legislation has succeeded in maintaining better control of the banking environment with the establishment of the CFPB, increased capital requirements for banks, and by forcing banks to provide more thorough analyses on consumers' financial backgrounds. However, the Dodd-Frank Act has disproportionately impacted community banks by subjecting banks of all asset sizes to many of the same regulations and fixed compliance costs. Because community banks rely on limited sources of funding and do not benefit from economies of scale, it has become economically impossible for many community banks to make profits that cover increased compliance costs, leaving rural communities with even less access to basic banking services. As banks continue to consolidate, the banking system will likely become more standardized and leave consumers with even fewer options, thereby leaving them at the mercy of larger financial institutions. Therefore, I argue that changes must be made to the Dodd-Frank Act to slow the consolidation of banks in the U.S. and to prevent larger financial institutions from capturing an even larger share of the mortgage market.

In order for local economies to continue to grow and develop, lawmakers must reexamine the implications of the Dodd-Frank Act on banks of all asset sizes. Considering that community banks played a minor role, if any role at all, in the problems that led up to the financial crisis of 2008, it is unfair to impose the same fixed compliance costs on community banks as are imposed on larger banks. Because larger financial institutions benefit from economies of scale, have departments dedicated completely to compliance, and can pull from larger pools of resources, they face smaller challenges in keeping up with the regulatory requirements imposed by the Dodd-Frank Act. Community banks typically operate with fewer than 42 employees, on average.[18] They simply do not have the time or resources to read, train, and implement these rules with their smaller staff size while trying to meet the demands of their customers. Therefore, community banks have to hire additional personnel to keep up with additional requirements or shut their doors if they cannot afford such costs. Also, community banks are less able to employ discretion in their decisions to extend credit to customers, which results in a lower return on assets and slows economic growth in the local communities. By micromanaging the business decisions of community banks, the Dodd-Frank Act has hurt the ability of community banks to lend and stimulate their economies.

In order to see how the Dodd-Frank Act directly impacted mortgage lending at community banks before and after the financial crisis, I compared mortgage information provided by the HMDA Act and quarterly returns on average assets for commercial banks with assets under $5 billion in the U.S. from 2002-2007 and 2011-2016. At the conclusion of my research, I found that the Dodd-Frank Act has negatively affected mortgage lending in my sample of community banks in Mississippi or Alabama. Therefore, my research suggests that changes should be made to the Dodd-Frank Act so that community banks can

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[18] See Nichols, Rob, https://www.politico.com/agenda/story/2016/09/community-banks-dodd-frank-000197, (accessed 19 March 2018).

better compete against larger banks and continue to provide banking services to their local communities.

Since the passage of the Dodd-Frank Act, one in five community banks has disappeared and very few community banks have been created. In order for this regulatory framework to function properly and promote economic stability, it must be more specialized for banks of different asset sizes and consider the financial implications it imposes on community banks. The authors of the Dodd-Frank Act fail to consider differences in banks' asset sizes and capital requirements. In order to protect consumers from unfair banking practices, I believe the banking industry should be highly regulated. However, I feel that a simpler regulatory framework would better combat the complexity of the financial system in the U.S. With a more thoughtful approach to regulation, lawmakers could solve many of the issues associated with the disappearance of community banks, thereby promoting a more competitive banking environment.

Overall community banks play a very important role in the U.S. economy by providing loans to industries and communities that would otherwise be underbanked. While a shift towards bank consolidation is not entirely negative, the reason community banks are disappearing at an increasing rate should raise concern. The inappropriate framework set in place by the Dodd-Frank Act does not allow for its intended goals to be achieved efficiently; therefore, lawmakers should work together to decide where they could exempt community banks from regulations that are harmful to their businesses. With the Trump Administration now in office, the Senate has passed a bill which is expected to make the most sweeping changes to the Dodd-Frank Act since its passage. The proposed amendments would exempt mid-sized banks from Federal Reserve oversight and higher capital requirements, thus providing necessary relief to thousands of community banks.

While my results may be influenced by a number of other factors, such as the economic downturn in general and a failure of my empirical methodology to control for other factors affecting lending, my study does show that community bank mortgage lending is lower since the Dodd-Frank Act. However, if I did the same analysis on large banks and found the same result, this would refute my hypothesis that community banks were harmed more than large banks after the Dodd-Frank Act. With a proper reexamination of the Dodd-Frank Act's regulatory framework, this legislation will better address the lessons learned from past crises and bring much needed relief to small banks who have been treated unfairly under the Dodd-Frank Act.

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